AMENDMENTS TO THE SPECIFICATION

Page 1, paragraph [0001]:

This application claims the benefit of (1) U.S. Provisional Application No. 60/420,638, entitled "An Augmented Reality Registration Method Based On Matching Templates Generated From An Image Texture," filed on October 22, 2002; and (2) U.S. Provisional Application No. ~~_____~~, 60/513,725 (patent counsel's matter no. 37181-8002-US00), entitled "Registrating a Specific Planar Scene Using Fiducial Markers," filed contemporaneously herewith, each of which is hereby incorporated by reference in its entirety.

Page 1, paragraph [0004]:

One significant subset of the movement tracking task is tracking the movement of a roughly planar, i.e., 2-dimensional, surface within a video scene. Such a surface may be one side of a sheet of paper, either a free-standing sheet of paper or a sheet of paper in a book. It may also be a surface presented by virtually any other object. One application of surface tracking is introducing a view of a virtual, 3-dimension object into each frame of the video scene that appears to float about the surface, termed reality augmentation.

Page 4, paragraph [0027]:

A software facility for tracking a surface in a 3-dimensional scene using natural visual features of the surface ("the facility") is provided. In some embodiments, the facility acquires an image of the surface, and uses it to select visual features of the surface that the facility will use to track the surface. In some embodiments, the facility performs this surface analysis and feature selection on a non-real-time basis. In some embodiments, the facility selects groups of features that are each of a different size, for use when the surface is at different distances from the camera. To initially identify the surface in the video frame, in some embodiments, the facility locates a fiducial marker attached to the surface within the video scene, and uses it to determine the surface's distance and

orientation relative to the camera. After this point, the facility reiteratively uses earlier tracking results to both (1) select a group of features to search for based upon the distance of the surface from the camera, and (2) delineate search zones in the video scene in which the facility expects to find the natural features based upon their prior positions. The facility then searches these search zones for the natural features in the selected group, and uses their locations in the video scene to determine the surface's location and orientation relative to the camera.

Page 6, paragraph [0033]:

Figure 2 is a flow diagram showing steps typically performed by the facility in order to track a surface. The facility begins in ~~market~~ marker based initialization mode 210. In step 211, the facility converts an image of the surface into binary form. In step 212, the facility extracts connected components from the binary version of the image of the surface. In step 213, the facility extracts the contours from the image of the surface. In step 214, the facility rejects any false contours among the extracted contours, and performs sub-pixel recovery of the coordinates of the corners of the marker. In step 215, the facility computes the homography of the surface (that is, its location and orientation relative to the camera), and un-warps the image of the surface by normalizing it with respect to the surface's determined location and orientation with respect to the camera. In step 216, the facility selects the best visual features of the surface, such as the best four features. These selected features are sometimes referred to as "point features."

Page 9, paragraph 0043]:

A front-facing representation of the planar scene to track containing a marker has to be supplied to the tracker. Usually, a JPEG or a GIF file is used as the input image file. Firstly, the marker is detected in the input image using well known techniques, such as those described in U.S. Provisional Patent Application No. ~~_____~~ 60/513,725(patent counsel's docket no. 37181-8002US00). The position and size of the scene in the input image are calculated and stored in a file.